IN THE CLAIMS:

Please amend claims 1-20 without prejudice or disclaimer, and add new claims 21-24, resulting in the following set of claims:

1. (currently amended) An entertainment apparatus using cards for obtaining inputs from a plurality of cards on each of which a visually human-identifiable design is printed and performing information processing in accordance with the inputs, comprising:

a card photographing part ~~for fixing said card in a predetermined position~~ , the card defining a footprint having a first dimension and a second dimension perpendicular to the first dimension, the card photographing part including an area having a dimension equal to the first dimension, a first structure opposing a first side of the area, a second structure opposing a second side of the area, the second side being opposite the first side, the first and second structures acting to fix the card in contact with the area;

a photographic device that is configured to photograph the ~~said~~ design of the ~~said~~ card that is fixed in contact with the area of the ~~set at said predetermined position in said~~ card photographing part and to form ~~fetch~~ a photographic pixel data array;

a database including a plurality of entries individually corresponding to the ~~said~~ plurality of cards, each of the entries including a pair of a card ID and a comparison data array;

a card identifier for searching the ~~said~~ database for a specific comparison data array based on the ~~said~~ photographic pixel data array and obtaining a card ID pairing up with the specific comparison data array; and

an information processor for performing the ~~said~~ information processing with the ~~said~~ card ID obtained by the ~~said~~ card identifier as an input,

wherein the photographic device includes an image sensor for photographing the design and outputting a photographic signal, a data array former for sampling the photographic signal and forming a data array, and a photographic pixel data array former for re-sampling the data array and forming the photographic pixel data array ~~and forming~~

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~~said photographic pixel data array~~,

wherein the data array formed by the data array former is constituted by a plurality of pixel data,

wherein the photographic pixel data array formed by the photographic pixel data array former is constituted by a plurality of photographic pixel data, and

wherein the photographic pixel data array former sequentially extracts a predetermined number of pixel data of pixels adjacent to each other in an image represented by the photographic signal from the plurality of pixel data constituting the data array while the extracted pixel data are changed sequentially, and produces a ~~said~~ single photographic pixel data based upon the extracted predetermined number of pixel data every time the predetermined number of pixel data is extracted.

2. (currently amended)   An entertainment apparatus as set forth in claim 1, wherein the ~~said~~ data array former samples the ~~said~~ photographic signal at a first resolution, and the ~~said~~ photographic pixel data array former re-samples the ~~said~~ data array at a second resolution which is lower than the ~~said~~ first resolution, and the ~~said~~ comparison data array includes comparison data corresponding to the ~~said~~ second resolution.

3. (currently amended)   An entertainment apparatus as set forth in claim 2, wherein the ~~said~~ card identifier calculates a distance between the ~~said~~ photographic pixel data array and the ~~said~~ comparison data array, and obtains the card ID of the entry with the comparison data array at the shortest distance.

4. (currently amended)   An entertainment apparatus as set forth in claim 3, wherein the ~~said~~ distance is a sum total of absolute values of differentials between respective elements of the ~~said~~ photographic pixel data array and corresponding elements of the ~~said~~ comparison data array.

5. (currently amended)   An entertainment apparatus as set forth in claim 3; wherein the ~~said~~ distance is a sum total of squares of differentials between the respective elements

of <u>the</u> ~~said~~ photographic pixel data array and the corresponding elements of <u>the</u> ~~said~~ comparison data array.

6. (currently amended) An entertainment apparatus as set forth in <u>claim 2</u> ~~any one of claims 2 to 5~~ , wherein <u>the</u> ~~said~~ photographic pixel data array former produces <u>the</u> ~~said~~ single photographic pixel data by calculating a sum of <u>the</u> ~~said~~ predetermined number of pixel data while a predetermined weight to the predetermined number of pixel data is assigned.

7. (currently amended) An entertainment apparatus as set forth in claim 2, wherein <u>the</u> ~~said~~ card identifier includes a threshold value determiner for determining whether or not <u>the</u> ~~said~~ sum total of differentials is larger than a predetermined threshold value; and excludes any entry with <u>the</u> ~~said~~ sum total of differentials larger than <u>the</u> ~~said~~ predetermined threshold value from identification candidates.

8. (currently amended) An entertainment apparatus as set forth in claim 7; wherein <u>the</u> ~~said~~ card identifier includes a number-of-candidates determiner for determining a total number of candidates which are left as a result of determination by <u>the</u> ~~said~~ threshold value determiner, and does not obtain any card ID when it is determined by <u>the</u> ~~said~~ number-of-candidates determiner that the number of candidates is "0", and obtains the card ID of the identification candidate when it is determined that the number of candidates is "1".

9. (currently amended) An entertainment apparatus as set forth in claim 8, taking <u>the</u> ~~said~~ database as a first database, and further comprising a second database including one or more entries, each of the entries including a plurality of candidate card IDs and one determination card ID, wherein

    <u>the</u> ~~said~~ card identifier includes a number-of-candidates determiner for determining whether two or more <u>the</u> ~~said~~ identification candidates are left or not, searches <u>the</u> ~~said~~ second database for an entry in which there is a match between a

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combination of card IDs of the left candidates and a combination of the ~~said~~ candidate card IDs in the ~~said~~ second database when it is determined by the ~~said~~ number-of-candidates determiner that the number of candidates is "two or more" and, if there exists any matching entry, obtains the determination card ID of the entry, obtains the determination card ID of the entry.

10. (currently amended) An entertainment apparatus as set forth in claim 1 , wherein the ~~said~~ database includes card data corresponding to each entry and the ~~said~~ information processor includes a card data displayer for displaying ~~at least~~ the design based on the card data of the entry corresponding to the ~~said~~ card ID obtained by the ~~said~~ card identifier.

11. (currently amended) An entertainment apparatus as set forth in claim 1, further comprising a cartridge connector, wherein the ~~said~~ cartridge connector is equipped with a memory cartridge and the memory cartridge stores another database.

12. (currently amended) An entertainment apparatus using cards, which obtains inputs from a plurality of cards on each of which a visually human-identifiable design is printed and performs information processing according to the inputs, comprising:

        a card photographing part ~~for setting said card in a predetermined position~~ , the card defining a footprint having a first dimension and a second dimension perpendicular to the first dimension, the card photographing part including an area having a dimension equal to the first dimension, a first structure opposing a first side of the area, a second structure opposing a second side of the area, the second side being opposite the first side, the first and second structures acting to fix the card in contact with the area;

        a photographic device that is configured to photograph the ~~said~~ design of the ~~said~~ card that is fixed in contact with the area of the ~~at said predetermined position in said~~ card photographing part and to form ~~fetch~~ a photographic pixel data array;

        a card identifier for obtaining a data string corresponding to the design from the ~~said~~ photographic pixel data array; and

an information processor for performing the ~~said~~ information processing with the ~~said~~ data string obtained by the ~~said~~ card identifier as an input,

wherein the photographic device includes an image sensor for photographing the design and outputting a photographic signal, a data array former for sampling the photographic signal and forming a data array, and a photographic pixel data array former for re-sampling the data array and forming the photographic pixel data array ~~and forming said photographic pixel data array~~,

wherein the data array formed by the data array former is constituted by a plurality of pixel data,

wherein the photographic pixel data array formed by the photographic pixel data array former is constituted by a plurality of photographic pixel data; and

wherein the photographic pixel data array former sequentially extracts a predetermined number of pixel data of pixels adjacent to each other in an image represented by the photographic signal from the plurality of pixel data constituting the data array while the extracted pixel data are changed sequentially, and produces a ~~said~~ single photographic pixel data based upon the extract predetermined number of pixel data every time the extractor extracts the predetermined number of pixel data is extracted.

13. (currently amended) An entertainment apparatus as set forth in claim 1 ~~or 12~~ , further comprising:

a light source for indirectly irradiating light to a surface to be photographed of the card fixed in contact with the area of the ~~said~~ card photographing part.

14. (currently amended)   An entertainment apparatus as set forth in claim 13, further comprising a reflector for diffusely reflecting light from the ~~said~~ light source and letting the light enter the ~~said~~ surface to be photographed.

15. (currently amended) An entertainment apparatus as set forth in claim 13, further comprising:

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a photographing part cover for covering the ~~said~~ card photographing part, the cover having a position correction mark on a surface opposite to the ~~said~~ photographic device; and

a photographic pixel data fetching area corrector for correcting a fetching area of photographic pixel data based on the ~~said~~ position correction mark, wherein the ~~said~~ photographic device photographs the ~~said~~ position correction mark under a state where no card is fixed in the ~~set in said~~ card photographing part.

16. (currently amended) A method of identifying a card by photographing a plurality of cards on each of which a visually human-identifiable design is printed, including steps of:

(a) preparing a database including a plurality of entries individually corresponding to the ~~said~~ plurality of cards, each of the entries including a pair of a card ID and a comparison data array;

(b) photographing the ~~said~~ design of the ~~said~~ card ~~being fixed at a predetermined position of a photographing part~~ by using an image sensor and obtaining a photographic signal , wherein the card defines a footprint having a first dimension and a second dimension perpendicular to the first dimension, and a card photographing part includes an area having a dimension equal to the first dimension, a first structure opposing a first side of the area, a second structure opposing a second side of the area, the second side being opposite the first side, and step (b) is executed at a time when the first and second structures act to fix the card in contact with the area;

(c) sampling the ~~said~~ photographic signal to form a data array;

(d) re-sampling the ~~said~~ data array to form photographic pixel data array;

(e) searching the ~~said~~ database for a specific comparison data array based on the ~~said~~ photographic pixel data array to obtain the card ID pairing up with the specific comparison data array,

wherein the data array formed in the ~~said~~ step (c) is constituted by a plurality of pixel data,

wherein the ~~said~~ photographic pixel data array formed in the ~~said~~ step (d) is constituted by a plurality of photographic pixel data, and

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wherein the said step (d) includes (d1) sequentially extracting a predetermined number of pixel data of pixels adjacent to each other in an image represented by the photographic signal from the plurality of pixel data constituting the data array while the extracted pixel data are changed sequentially, and (d2) producing a said single photographic pixel data based upon the predetermined number of pixel data extracted by the step (d) every time the said step (d1) is executed, and

(f) executing information processing according to the obtained card ID.

17. (currently amended)   A card identifying method as set forth in claim 16, wherein, in the step (e); a distance between the said photographic pixel data array and the said comparison data array is calculated, and the card ID of the entry with the comparison data array at the shortest distance is obtained.

18. (currently amended) A card identifying method as set forth in claim 16, wherein in the said step (c) the data array is formed by sampling the said photographic signal at a first resolution, and in the said step (d) the photographic pixel data array is formed by re-sampling the data array at a second resolution which is lower than the first resolution.

19. (currently amended)   A card identifying method as set forth in claim 18, wherein; in the step (e), a distance between the said photographic pixel data array and the said comparison data array is calculated, and the card ID of the entry with the comparison data array at the shortest distance is obtained.

20. (currently amended) A storage medium that is readable by a processor of a card identifying apparatus and stores an identifying program by which a plurality of cards on each of which is visually human-identifiable design is printed can be identified, the said identifying program making the said processor to execute steps of:

(a) preparing a database including a plurality of entries individually corresponding to the said plurality of cards, each of the entries including a pair of a card ID and a comparison data array;

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(b) photographing ~~the~~ said design of ~~the~~ said card ~~being fixed at a predetermined position of a photographing part~~ by using an image sensor and obtaining a photographic signal , wherein the card defines a footprint having a first dimension and a second dimension perpendicular to the first dimension, and a card photographing part includes an area having a dimension equal to the first dimension, a first structure opposing a first side of the area, a second structure opposing a second side of the area, the second side being opposite the first side, and step (b) is executed at a time when the first and second structures act to fix the card in contact with the area;

(c) sampling ~~the~~ said photographic signal to form a data array;

(d) re-sampling ~~the~~ said data array to form a photographic pixel data array;

(e) searching ~~the~~ said database for a specific comparison data array based on ~~the~~ said photographic pixel data array to obtain the card ID pairing up with the specific comparison data array;

wherein ~~the~~ said data array formed in ~~the~~ said step (c) is constituted by a plurality of pixel data,

wherein ~~the~~ said photographic pixel data array formed in ~~the~~ said step (d) is constituted by a plurality of photographic pixel data, and

wherein ~~the~~ said step (d) includes (d1) sequentially extracting a predetermined number of pixel data of pixels adjacent to each other in an image represented by ~~the~~ said photographic signal from ~~the~~ said plurality of pixel data constituting ~~the~~ said data array while extracted pixel data are changed sequentially, and (d2) producing a ~~said~~ single photographic pixel data based upon ~~the~~ said predetermined number of pixel data extracted by ~~the~~ said step (d1) every time that ~~the~~ said step (d1) is executed, and

(f) executing information processing according to the obtained card ID.

21. (new) An entertainment apparatus as set forth in claim 1 wherein the first and second structures constitute walls of a card insertion slot.

22. (new) An entertainment apparatus as set forth in claim 12 wherein the first and second structures constitute walls of a card insertion slot.

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23. (new) A card identifying method as set forth in claim 16 wherein the first and second structures constitute walls of a card insertion slot, and the identifying program makes the processor execute the step of photographing at a time when the card is in the card insertion slot.

24. (new) A storage medium as set forth in claim 20 wherein the first and second structures constitute walls of a card insertion slot, and the identifying program makes the processor execute the step of photographing at a time when the card is in the card insertion slot.